



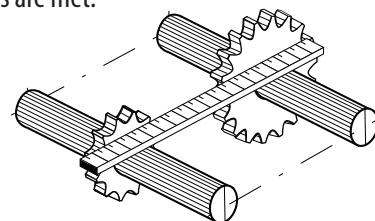
DIAMOND[®]



INSTALLATION

To obtain maximum service-life and efficiency from a chain drive, it is necessary that certain precautions in installation be taken. Chain drive installation is relatively simple and good results may be obtained when the following conditions are met:

1. The roller chain, sprockets, and other components are in good condition.
2. The sprockets are properly aligned.
3. Provision is made for adequate lubrication.
4. The chain is correctly tensioned.



CONDITION OF COMPONENTS

Shafting, bearings, and foundations should be supported rigidly to maintain the initial alignment. Roller chain should be free of grit and dirt. Wash chain in kerosene when required and then **re-lubricate**.

DRIVE ALIGNMENT

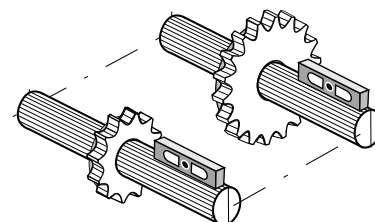
Misalignment results in uneven loading across the width of the chain and may cause roller linkplate and sprocket tooth wear. Drive alignment involves two things: parallel shaft alignment and sprocket axial alignment.

1. Shafts should be parallel and level. This condition may be readily checked by the use of a feeler bar, and a machinist's level. If there is axial movement of the shaft (as in the case of an electric motor), lock the shaft in the normal running position before aligning the sprockets.

Most single strand drives will perform acceptably if the shafts are parallel and in the same plane within .050 in/ft (4.2 mm/m) or 1/4°. However, high speed, high horsepower, or multiple strand drives should be aligned within the tolerance obtained from the following formula:

$$\text{Tolerance} = \frac{.00133 C}{P n} \text{ (in/ft), or } \frac{.111 C}{P n} \text{ (mm/m)}$$

Where: C = center distance, in inches or mm.
P = chain pitch, in inches or mm.
n = number of chain strands.



2. Sprocket axial alignment can be checked with a straight edge which will extend across the finished sides of the two sprockets. Normally, it is good practice to align the sprockets as close to the shaft bearing as possible. For long center distances, use a taut cord, or wire long enough to extend beyond each of the sprockets. The maximum allowable amount of axial misalignment is obtained from the following formula:

Max. Offset = $0.045 P$ in inches or mm where P = chain pitch in inches or mm. This formula applies to both single and multiple strand chains.



NOTHING OUTLASTS A DIAMOND.®

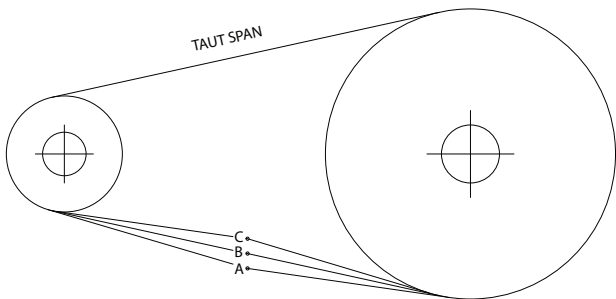


INSTALLING THE CHAIN

Re-check all preceding adjustments for alignment and make certain all set screws, bolts and nuts are tight. Fit chain around both sprockets and bring the free ends together on one sprocket for connection. The sprocket teeth will locate the chain end links. Install the connecting link and connecting link coverplate, and the spring clip or cotter pins. On larger pitch or heavy multiple strand chains, it may be necessary to lock the sprockets for this operation. When press fit coverplates are used, be careful not to drive the plate on so far as to grip the roller links. Stiff joints can result if this is done. On drives with long spans, it may be necessary to support the chain with a plank or bar as the connection is made.

CHAIN TENSION

Check chain tension to be certain the slack span has 4-6% mid-span movement in horizontal drives and 2-3% in vertical drives. Please reference the table below.



AC = Total Possible Mid-Span Movement

Recommended Possible Mid-Span Movement AC

Drive Center-Line	Tangent Length Between Sprockets								
	127 mm	254 mm	381 mm	508 mm	762 mm	1016 mm	1524 mm	2032 mm	2540 mm
Horizontal to 45°	6.35	12.7	19.05	25.4	38.1	50.8	76.2	101.6	127
Vertical to 45°	3.048	6.35	9.652	12.7	19.05	25.4	38.1	50.8	63.5

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